Mounting instruction

Version 1.0.1

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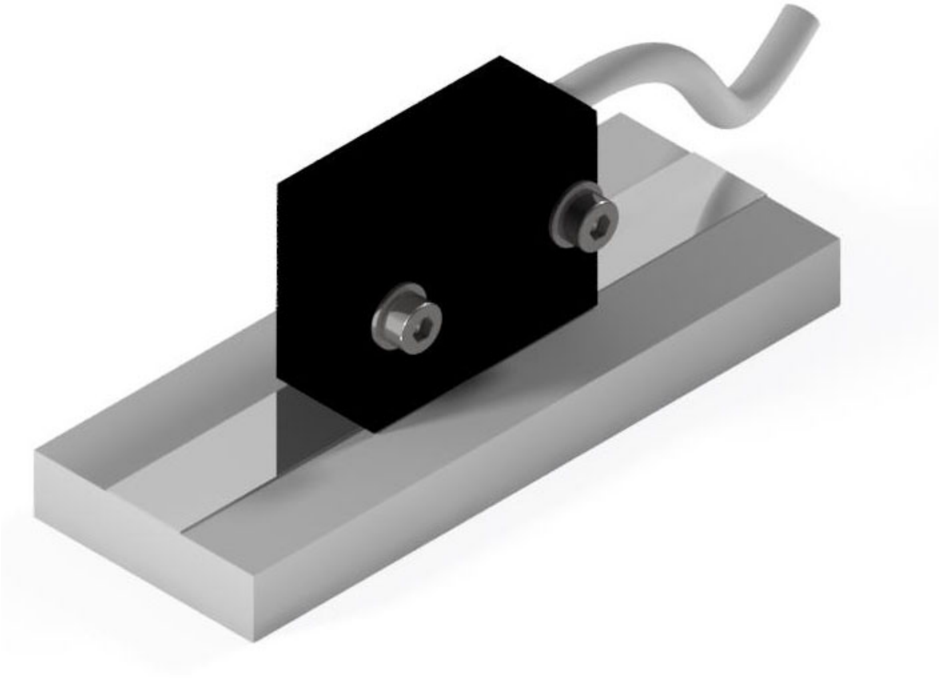
Bauteile Magnetsensor - Magnetic sensor components

Magnetic sensor and magnetic tape

3384035
3383978
3383979
3383980



1 Magnetic sensor and magnetic tape

INFORMATION

At the time of writing, there are 2 different magnetic sensors.

- CSD203R Sensor (± 40 µ).
- CSD205 Sensor (± 10 µ).

The difference lies mainly in the improved shielding of the CSD205, its associated metal-shielded signal cable and the counting resolution of both types to be entered in the digital display.

Counting Resolution:

CSD203R Sensor: 0.003

CSD205 Sensor: 0.005

1.1 Mechanical installation

The installation may only be carried out in accordance with the specified IP protection class. The system must - if necessary - be additionally protected against harmful environmental influences, e.g. splash water, solvents, dust, impacts, vibrations, strong temperature fluctuations.

1.2 Mounting magnetic tape

The mounting must be flat to the mounting surface or the section to be measured. Ripples always deteriorate the measurement accuracy.

For technical reasons, an allowance of 30mm must be taken into account for the length in relation to the measuring section.

ATTENTION!

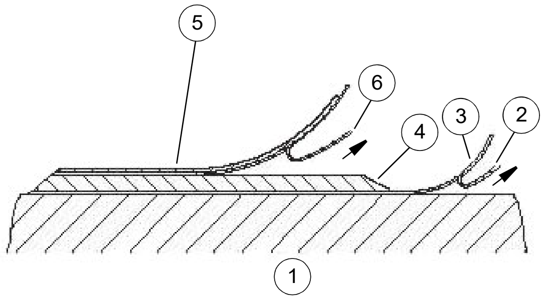
In order to achieve optimal adhesion, all anti-adhesive foreign substances (oil, grease, dust, etc.) must be removed by cleaning agents that evaporate without leaving any residue. Suitable cleaning agents include ketones (acetone) or alcohols, which are offered as quick cleaners by the companies Loctite and 3M, among others. The surfaces to be bonded must be dry and bonded with the highest possible contact pressure. The optimal bonding temperature is between 20° and 30° Celsius in dry rooms.

INFORMATION

When taping long tapes, the protective film of the tape should be peeled off over a short section to fix the tape. This is followed by the alignment of the belt. Now the protective film can be pulled out sideways over the remaining length, while simultaneously pressing on the tape. (a wallpaper printing roller can be used as an aid)

1.2.1 Assembly steps

- Carefully clean the mounting surface (1).
- Remove the protective film (2) from the adhesive tape (3) on the magnetic tape.
- Stick on the magnetic tape (4).
- Clean the magnetic tape surface carefully.
- Remove protective foil (6) from adhesive tape on the cover strip (5).
- Fix cover strip (both ends should slightly overlap).
- Secure the overlapping ends of the cover against detachment



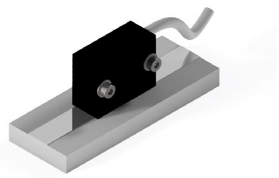
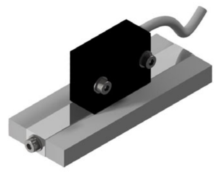
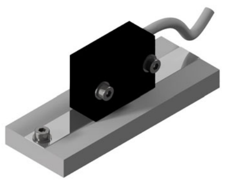
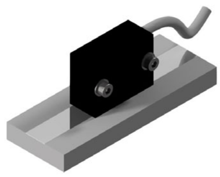
ATTENTION!

The influence of magnetic fields must be avoided. In particular, no magnetic fields (e.g. holding magnets or other permanent magnets) may come into direct contact with the magnetic tape. In de-energised state, movements or adjustments of the magnetic sensor are not detected and registered by the subsequent electronics.

1.2.2 Mounting examples

The simple mounting method, due to bevelled protective strip.
(☞ Img. 1-1:) is only recommended in a very protected environment. There is a risk of peeling in unprotected environments. In such cases, mounting methods such as those shown in
☞ Img. 1-2: and ☞ Img. 1-3: are more suitable.

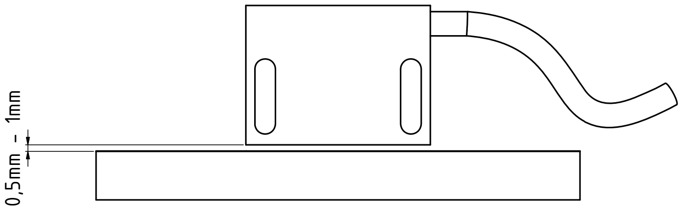
Optimum protection is provided by mounting in a groove
(☞ Img. 1-4:) which should be deep enough for the magnetic tape to be completely embedded in it.

	
Img. 1-1:	Img. 1-2:
	
Img. 1-3:	Img. 1-4:

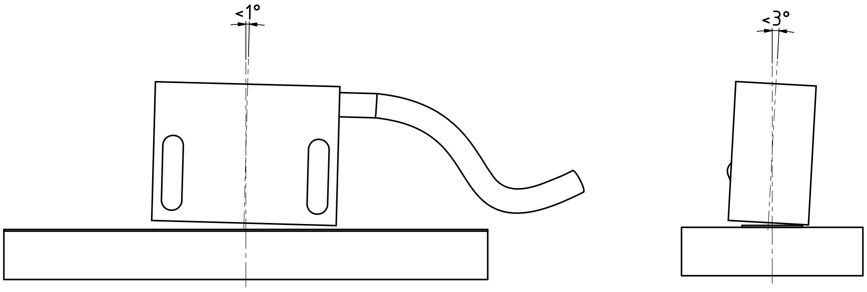
1.3 Mounting magnetic sensor

The magnetic sensor can be fixed by using two M3 screws. We recommend the use of washers.

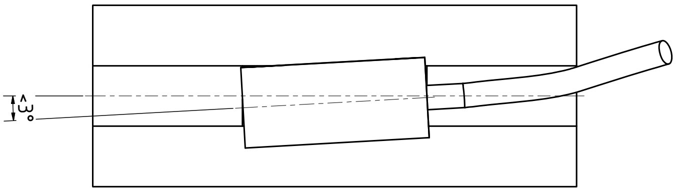
- Cables must be laid in such a way that there is no risk of damage from draught or other machine parts. If necessary, use a drag chain or protective hose and provide strain relief.
- Observe the distance between the sensor and the magnetic tape as well as the angle tolerances; these must be maintained over the entire measuring distance! (☞ Img. 1-5: to ☞ Img. 1-7:)
- The distance without masking tape is 0.5mm to 1mm. When using a masking tape, the effective distance is reduced by the thickness of the masking tape including the adhesive film. The sensor must not touch the magnetic tape.



Img. 1-5: Distance sensor / magnetic tape



Img. 1-6: Maximum misalignment



Img. 1-7: Alignment of the sensor

1.4 Counting resolution

The counting resolution of the magnetic tape sensor unit is 0.003mm or 0.005mm, depending on the type used. This must be entered at the corresponding position in the position display.

1.5 Electrical connection

Before switching on, check all line connections and plug connections.

1.5.1 Notes on interference immunity

All connections are protected against external interference. However, the place of use must be chosen in such a way that inductive or capacitive interference cannot affect the sensor or its connecting cable! Interference (e.g. from switch-mode power supplies, motors, clocked controllers or contactors) can be reduced by suitable cable routing and wiring.

1.5.2 Necessary measures

- The system must be installed at the greatest possible distance from lines that are subject to interference, - if necessary - **additional measures such as shielding plates or metallised enclosures** must be provided. Avoid routing cables parallel to power lines.
- Contactor coils must be wired with spark suppressors.

1.6 Maintenance

The surface of the magnetic tape should be cleaned from time to time with a soft cloth if it is very dirty due to dust, chips, moisture, etc.

1.7 Error handling

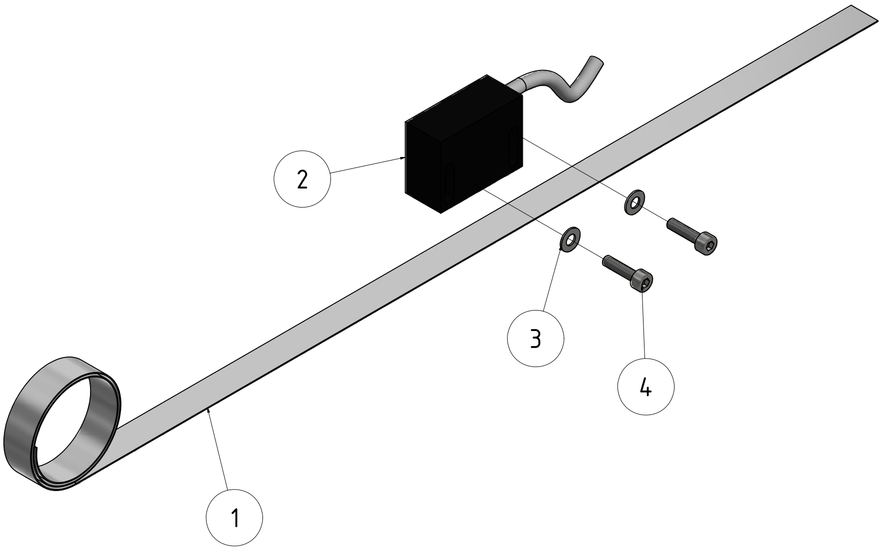
The speed indicator fluctuates, jumps up and down, although the mechanical speed is constant.

Typical errors that occur during installation and operation:

- The magnetic tape was mounted incorrectly /active side down. ☞ Mounting magnetic tape on page 2
- The cover tape supplied was not used to protect the magnetic tape. The masking tape must not be magnetisable.
- The sensor is not connected correctly. Check connection.
- The distance tolerance between the sensor and the magnetic tape was not maintained over the entire measuring distance, the sensor grazes on the magnetic tape (☞ Img. 1-5:).
- Cable interruption / disconnection due to sharp edges / crushing.
- The sensor is mounted with the active side facing away from the belt (☞ Img. 1-7: and ☞ Img. 1-7:).
- The sensor was not aligned accordingly ☞ Img. 1-5: and ☞ Img. 1-6:

1.8 Bauteile Magnetsensor - Magnetic sensor components

A Magnetsensor - Magnetic sensor



Pos.	Bezeichnung	Description	Grösse Size	Katalog - Artikelnummer Catalogue - Item number
1	Magnetband, 2mm Magnetpolabstand 0,003 mm Zählwertauflösung mit 3384035	Magnetic strip, 2mm magnetic pole distance 0.003mm count resolution with 3384035	1100mm Katalogware 1100mm catalogue item	3383978
			Magnetband pro Meter, Katalogware Magnetic tape per metre, catalogue item	3383980
			2000mm Katalogware 2000mm catalogue item	3383979
2	Magnetsensor für Magnetband Aktiv-Lesekopf, Anschluss-Kabellänge 4 Meter 0,003 mm Zählwertauflösung	Magnetic sensor for magnetic strip Active reading head, connection cable length 4 metres 0.003mm count resolution	CSD203R	3384035
	Magnetsensor für Magnetband Aktiv-Lesekopf, Anschluss-Kabellänge 4 Meter 0,005 mm Zählwertauflösung	Magnetic sensor for magnetic strip Active reading head, connection cable length 4 metres 0.005mm count resolution	CSD205	3384035
3	Beilegscheibe	Washer	DIN EN ISO 7091	
4	Schraube M3x20	Screw M3x20	DIN EN ISO 4762	
	Verlängerungskabel für Sensor	Extension cable for sensor	1 Meter 1 metre	3384040